BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION

Washington, D.C. 20554

IN THE MATTER OF	)	
	)	
PROMOTION OF WIDESPREAD	)	
DEPLOYMENT OF HIGH-SPEED	)	**CC DOCKET NO. 02-33**
BROADBAND INTERNET	)	
ACCESS SERVICES	)	
	)	
	)	

To the Commission:

COMMENTS OF THE UNITED STATES INTERNET INDUSTRY ASSOCIATION ("USIIA")

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SUMMARY OF FILING

The US Internet Industry Association ("USIIA"), the leading national trade association of companies engaged in Internet commerce, content, and connectivity; submits on behalf of its members and the industry it serves these comments in response to the Notice of Proposed Rulemaking with respect to the Promotion of Deployment of High-Speed Broadband Internet Access Services.

USIIA believes that the current regulatory model for Broadband Internet is ineffective in that it hinders deployment of Broadband services, and that efforts to apply telephony regulation to broadband Internet services has created a environment detrimental to the growth and well-being of the Internet industry. USIIA instead urges the Commission to consider the normative model of broadband Internet to be the Open Systems Interconnection model, as outlined in these comments.

USIIA agrees with the tentative conclusions reached by the Commission for the most part, and urges the adoption of rules for consumer choice of Internet access service and for the right of Internet access services to interconnect with Internet transport services.

USIIA further argues that broadband Internet is interstate in scope and nature, and that its regulation appropriately belongs with the Commission.

USIIA further argues that at this time there is no compelling case for the extension of universal service payments to Internet access or transport services.

STATEMENT OF STANDING

USIIA is a national trade association of competitive companies engaged in Internet commerce, content and connectivity. Its 300 members constitute a cross-section of the Internet industry, providing consensus on policy issues that breach the competitive interests of any single member or segment of the industry.

USIIA members, through their annual dues and membership status, entrust the Association to represent their interests before regulatory and legislative bodies at the international, national and local levels. The Association's positions on issues represent a consensus of the opinions of its members, expressed through the USIIA Public Policy Committee, membership in which is open to all members in good standing; and through its Board of Directors, elected from among the membership. As the appointed representative of its members charged with advancing their economic interests and assisting in achieving and maintaining their legal and competitive parity, USIIA has standing to file these comments.

USIIA has no financial interest in the outcome of the proceedings. The comments presented are based on a consensus of the best interests of the Internet industry and its members, and are not subject to change or withdrawal due to any contracts, agreements, competitive pressures, market valuations, stock market fluctuations, mergers or corporate strategies.

STATEMENT OF FACTS AND BACKGROUND

On February 14, 2002, the Commission released a *Notice of Proposed Rulemaking* to consider the appropriate legal and policy framework under the Communications Act of 1934, as amended, for broadband access to the Internet provided over domestic wireline facilities.[1]. The *Notice* sought to answer many of the questions left unanswered in both the *Report to Congress* on universal service[2] and the *Missouri/Arkansas 271 Order*[3] with respect to the classification of wireline broadband Internet access services.

In the Notice of Proposed Rulemaking, the Commission reached three tentative conclusions:

- That providers of wireline broadband Internet access service offer more than a transparent transmission path to end-users and offer enhanced capabilities, and thus that this service is properly classified as an "information service" under section 3 of the Act.[4]

- That wireline broadband Internet access service does not consist of two separate services, but as a single integrated offering to the end-user.

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[1] 47 U.S.C. § 151 *et seq*

[2] *See generally Report to Congress*, 13 FCC Rcd at 11501.

[3] *See Joint Application by SBC Communications Inc., Southwestern Bell Telephone Company, and Southwestern Bell Communications Services, Inc. d/b/a Southwestern Bell Long Distance Pursuant to Section 271 of the Telecommunications Act of 1996 to Provide In-Region, InterLATA Services in Arkansas and Missouri*, CC Docket No. 01-194, Memorandum Opinion and Order, 16 FCC Rcd 20719, 20759-60, paras. 81-82 (2001) (*SBC MO/AR 271 Order*).

[4] This is consistent with the finding in the *Report to Congress* that "Internet access services are appropriately classed as information, rather than telecommunications, services." *Id.* at 11536, para 73. The Commission noted that "Internet access providers do not offer a pure transmission path; they combine computer processing, information provision, and other computer-mediated offerings with data transport." *Id.*

- That the transmission component of the end-user wireline Internet access service provided over those facilities is "telecommunications" and not a "telecommunications service."

In addition, the Notice asked for comment regarding:

- Whether these conclusions should stand or be amended;
- Whether the Computer Inquiry network access requirements should be modified or eliminated;
- Whether important national security, network reliability and consumer protection obligations should apply to providers of wireline broadband Internet access services;
- How to strike an appropriate balance of responsibilities between the Commission and the states with respect to broadband Internet access services.
- Whether facilities-based broadband Internet access providers should be required to contribute to support universal service.

The comments of the USIIA in this matter are filed in CC Docket 03-33 in order to address these two specific issues raised in the NPRM, and to provide input to the development of the next generation of regulatory regimes for Broadband Internet.

Note that these comments are restricted to wireline broadband systems, herein defined so as to include cable, telephony, electrical grid and fiber optic systems. The developing industries for wireless and satellite broadband may at some point be the subject of similar proceedings, and should in any case be subject to equitable regulation with other platforms as appropriate. However, USIIA reserves its comments on these platforms until such a time as these are requested.

COMMENTS OF THE USIIA

In addressing the issues set forth in the Notice of Proposed Rulemaking, the Commission is guided by a goal of encouraging ubiquitous availability of broadband Internet and competition, while developing a regulatory regime that is consistent across multiple platforms.

That goal, however, is undermined by efforts to view broadband Internet through the single lens of existing definitions, models and regulations. That is, the Commission faces the daunting task of defining 21st Century communications using models and definitions designed for the radio and telephony industries of the preceding century. USIIA strongly urges the Commission not to consider how best to shoe-horn broadband Internet into current definitions for wireline telephony, rendering judgments based on Title II versus Title VI versus the Computer Enquiries, but rather how to craft an appropriate regulatory regime for broadband – a regimen that might best be termed Broadband I -- that is based on the physical operation and requirements of the Internet itself.

To do otherwise would be to threaten the achievement of the goals the Commission has set for itself. That is, if the Commission rules that broadband Internet is a single, integrated entity that is termed an "information service," but is then exempted from the ISP access requirements of the Computer Enquiries, competition will be virtually eliminated as ownership is consolidated in handful of companies. If the Commission rules that this information service must be subject to the Computer Inquiries on the telephony platform but not on other platforms as well, it will sacrifice the consistency needed for broadband to thrive.

The regulatory regime appropriate for broadband Internet is one that takes into consideration the physical structure of the Internet and the realities of the interrelationships between information services, Internet access providers and transport services. That physical structure is described in the Open System Interconnection model.[5]

[5] See http://www.webopedia.com/quick_ref/OSI_Layers.html.

Application of the Open Systems Interconnection Model. Open System Interconnection model is one of the more common methods of defining the interaction of the levels, or layers, or Internet services. It defines a networking framework for implementing protocols in seven layers.

Application (Layer 7)	This layer supports application and end-user processes. Communication partners are identified, quality of service is identified, user authentication and privacy are considered, and any constraints on data syntax are identified. Everything at this layer is application-specific. This layer provides application services for file transfers, e-mail, and other network software services. Telnet and FTP are applications that exist entirely in the application level. Tiered application architectures are part of this layer.
Presentation (Layer 6)	This layer provides independence from differences in data representation (e.g., encryption) by translating from application to network format, and vice versa. The presentation layer works to transform data into the form that the application layer can accept. This layer formats and encrypts data to be sent across a network, providing freedom from compatibility problems. It is sometimes called the *syntax layer*.
Session (Layer 5)	This layer establishes, manages and terminates connections between applications. The session layer sets up, coordinates, and terminates conversations, exchanges, and dialogues between the applications at each end. It deals with session and connection coordination.
Transport (Layer 4)	This layer provides transparent transfer of data between end systems, or hosts, and is responsible for end-to-end error recovery and flow control. It ensures complete data transfer.
Network (Layer 3)	This layer provides switching and routing technologies, creating logical paths, known as virtual circuits, for transmitting data from node to node. Routing and forwarding are functions of this layer, as well as addressing, internetworking, error handling, congestion control and packet sequencing.
Data Link (Layer 2)	At this layer, data packets are encoded and decoded into bits. It furnishes transmission protocol knowledge and management and handles errors in the physical layer, flow control and frame synchronization. The data link layer is divided into two sublayers: The Media Access Control (MAC) layer and the Logical Link Control (LLC) layer. The MAC sublayer controls how a computer on the network gains access to the data and permission to transmit it. The LLC layer controls frame synchronization, flow control and error checking.
Physical (Layer 1)	This layer conveys the bit stream - electrical impulse, light or radio signal -- through the network at the electrical and mechanical level. It provides the hardware means of sending and receiving data on a carrier, including defining cables, cards and physical aspects. Fast Ethernet, RS232, and ATM are protocols with physical layer components.

In this model, broadband Internet is not a single entity with a "telecommunications component," but rather three (or more) inter-related services that operate across seven layers. All seven are integral to the operation of the Internet, and the OSI model is the accepted definitional model for how the Internet works in both dial-up and broadband applications.

Under this model, Layers 7 and 6 clearly meet the definition given an information service. The Telecommunications Act of 1996 defines an "information service" as "the offering of a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications."[6] This definition was further delineated by the US Supreme Court to include "electronic mail, automatic mailing list services ('mail exploders,' sometimes referred to as 'listservs'), 'newsgroups,' 'chat rooms,' and the 'World Wide Web.'"[7]

Likewise, the Physical Layer 1 defines a capability that does not meet the definition of an information service, but does provide transport carrier services regardless of the platform on which the information is transported. That is, the services of Layer 7 do not need to differentiate between the various types of transport provided in Level 1 – telephony, wireless power grid, cable or other.

Layers 5, 4, 3 and 2 are performed by an altogether different service entity called an Internet Access Provider.[8]

The Internet is therefore comprised of three distinct services – information services, Internet access services and transport services. A single company may choose to offer all three of these services, bundled (e.g., Comcast Cable), it may offer a combination of any two (e.g., Earthlink, which does not own its own transport services), or only one of these (e.g., backbone providers such as Genuity, content services such as eBay.Com, or independent Internet Access Providers such as Mercury.Net).

None of the three services are capable of independently providing the full range of what we term broadband service. The Transport service required the ability to initiate, route and terminate data, as well as the data itself. The Internet Access service requires data and the means

[6] 47 U.S.C. § 153(20). Congress further specified that the term "information service" includes "electronic publishing, but does not include any such capability for the management, control, or operation of a telecommunications system or the management of a telecommunications service."
[7] *Reno v. ACLU*, 521 U.S. at 851.

to transport that data. And the Information Service becomes inaccessible without Internet access and transport.

Viewing the Internet as three symbiotic services rather than a single amorphous entity, though, is helpful in constructing policy. Whether or not to classify the transport service as "telecommunications," for example, carries little meaning outside of the narrow confines of the telephony infrastructure. Since the transport service operates identically with respect to the Internet regardless of the technology or platform employed, it becomes difficult to differentiate a copper wire carrying packets of data and voice communications to a residence over a telephone system and the identical packets and voice communications over a cable system.

Response to Tentative Conclusions. The Commission has outlined three tentative conclusions with regard to wireline Broadband services. USIIA responds to those conclusions as requested by referencing again the Open Systems Integration model of the Internet:

- *That providers of wireline broadband Internet access service offer more than a transparent transmission path to end-users and offer enhanced capabilities, and thus that this service is properly classified as an "information service" under section 3 of the Act.*[9] This is true of wireline broadband Internet application and protocol services, Layers 7 and 6 of the model. Layers 5, 4 3 and 2 of the model constitute a different form of Enhanced Services best described as "Internet Access Services" under its own classification.

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[8] The Commission has defined "Internet access services" as services that "alter the format of information through computer processing applications such as protocol conversion and interaction with stored data." *Report to Congress*, 13 FCC Rcd at 11516-17, para. 33.

[9] This is consistent with the finding in the *Report to Congress* that "Internet access services are appropriately classed as information, rather than telecommunications, services." *Id.* at 11536, para 73. The Commission noted that "Internet access providers do not offer a pure transmission path; they combine computer processing, information provision, and other computer-mediated offerings with data transport." *Id.*

- *That wireline broadband Internet access service does not consist of two separate services, but as a single integrated offering to the end-user.* USIIA agrees that the layers of the Internet are transparent to the end user. However, these layers do exist as independent service offerings of at least three types, as previously noted. Though transport services and access services seem unified to consumers, they are most frequently performed by two separate entities and should be treated differently for policy purposes.

- That the transmission component of the end-user wireline Internet access service provided over those facilities is "telecommunications" and not a "telecommunications service." USIIA concurs with this definition. While the transmission (or transport) of broadband data occurs in some cases via telecommunications services, they do so as a user of these services. At the same time, it is curious that what is carried as telecommunications on a copper wire in the telephony network is eschewed as telecommunications and referred to merely as "input" if it is carried on a copper wire in a cable network.

Application of the Computer Enquiries. The Computer Enquiries, embodied in Computer I, Computer II and Computer III were developed at a time when the Internet transport service was provided only (and envisioned primarily) on the telephony infrastructure.

The Computer Enquiries present a set of rules for non-discriminatory service by the transport services companies. These Enquiries lay the groundwork for the critical policy platform of open, non-discriminatory access. However, these Enquiries are limited in that they are so closely tied to the telephony infrastructure that they cease to make sense beyond that single platform.

USIIA would argue that the Computer Enquiries, based as they are on the single platform of telephony and on a strict model of regulatory control, are inappropriate for the evolution of Broadband. USIIA would argue instead for the creation of a more minimal regulatory environment that nonetheless preserves competition and access for Internet access providers to the transport services, and access for the transport providers to appropriate telecommunications, cable, satellite and wireless services. We would suggest the need for a Broadband I Enquiry to replace the existing Computer I, II and III Enquiries in a broadband environment.

The Broadband I Enquiry would be based not on tariffed and regulated cost structures, but rather on market-driven commercial agreements between transport services and Internet access providers. Such commercial agreements are the norm for the majority of the Internet industry today. They facilitate the formation of creative commercial arrangements that allow for differentiation in business relationships based on volume, terms, points of connection, and other established market services – resulting in lower costs to ISPs able to offer aggregated customers bases or enhanced levels of service. Market-driven commercial contracts will enable the most efficient, productive, creative and technology-neutral provisioning of broadband services.

Existing Federal and State tariffs and other common carrier obligations should be replaced by market based commercial arrangements. These business arrangements would remove constraints on both parties that deprive them of the opportunity to provide creative and innovative services to consumers.

At a minimum, these commercial agreements for high-speed internet access would be required to permit connection at either Layer 2 (ATM) or Layer 3 (IP) (including converged

Layer 2/3 networks), or their equivalent access on non-telephony networks, for the provision of internet services to consumers.

Existing agreements with ISPs should be grandfathered for the remaining term of existing agreements, or for one year, whichever provides the smoothest transition for the Internet access service. Information regarding terms and conditions at established volume and service levels will be published, and will be made available for review at the request of any Internet access provider. That is, published price lists for services and the application of appropriate competitive safeguards through anti-trust law would replace the current tariff structure for pricing.

Because these transport services are not telecommunications services, requirements of common carriage should not be applied. However, rights of interconnection via commercial contracts will be required on a non-discriminatory basis. That is, the transport service cannot offer a lower cost to its own or any other Internet access service that it would to any unaffiliated Internet access service that is able to meet the same terms for volume and service.

Current restrictions on the transportation and aggregation of broadband data across state lines limits investment opportunities and results in more costly and inefficient operations. Any entity offering broadband transport services should be allowed to do so without respect to state and LATA boundaries.

Nothing in this statement should be construed as having application to the requirements for competition among local exchange carriers, or to regulation of the telephony networks in general. This statement is intended to recognize that there are utilizations of some regulated networks that fall outside of the utilizations for which the regulations were intended, and that Internet transport services are one such utilization. Internet transport services should not be

subject to the regulation of voice telephony any more than they should be subject to the regulations of cable television or electrical power grids.

Protection of Consumer Interests. The Commission has requested comment on whether the varied interests of consumers can be served in a broadband environment without the application of competitive safeguards similar to those contained in Section 251 for wireline telecommunications services.

The appropriate regulatory regime for broadband Internet would include language to assure that:

"(1) Internet users with the ability to subscribe to and have access to any Internet service provider that interconnects with such carrier's high speed data service;

"(2) any Internet service provider with the right to acquire the facilities and services necessary to interconnect with such carrier's high speed data service for the provision of Internet access service;"[10]

While USIIA believes it inappropriate to apply Section 251 telephony regulations to all Internet transport services, we do encourage the Commission to apply these rules equitably among all wireline entities that provide broadband Internet transport services, specifically including cable and electrical grid systems when used in support of Internet transport services.

Appropriate Balance Between the Commission and the States. The Commission has requested comment regarding the appropriate balance of regulatory authority between the Commission and the States with regard to broadband Internet.

[10] See HR 1542, Section 5, SEC. 5. "Internet Consumers Freedom of Choice." As passed by the House of Representatives on 2/27/02

The conclusions of the California Public Utilities Commission[11] notwithstanding, The Commission has already ruled that when xDSL transmission is used to provide Internet access services, these services are interstate and, thus, subject to Commission jurisdiction.[12].

USIIA believes this determination to be correct, with no alteration required.

Universal Service. USIIA believes that the evolving market for telecommunications services may someday require a re-assessment of the definition of universal service and of the funding mechanisms for this service. At the same time, USIIA notes that Internet access has not traditionally been considered a part of telephony universal service, and that there is no compelling case for contribution to universal service on the part of entities that are not telecommunications services as of this time. We reject the notion that the concept of universal service must automatically extend to enhanced serviced, or that there is any compelling case for the broadband access of schools and libraries be considered as part of either the high-cost loop or the Lifeline programs of universal service.

Respectfully submitted,

May 3, 2002

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[11] See http://www.cpuc.ca.gov/word_pdf/rulings/14299.pdf, Case 01-07-0127.

[12] *See GTE Telephone Operating Cos., GTOC Tariff No. 1, GTE Transmittal No. 1148,* CC Docket No. 98-79, Memorandum Opinion and Order, 13 FCC Rcd 22466 (1998).